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ATTORNEY DOCKET NO. 08146.0001U1
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
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HALLER	)	Art Unit: **3632**
	)	
Application No. **10/812,833**	)	Examiner: **Alfred J. Wujciak**
	)	
Filing Date: **March 30, 2004**	)	Confirmation No.: **3114**
	)	
For: **DEVICE AND METHOD FOR SPRINGING A VEHICLE SEAT**	)	

COMMUNICATION

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

NEEDLE & ROSENBERG, P.C.
Customer Number 23859

April 28, 2008

Sir:

In response to the Communication dated April 9, 2008, transmitted herewith is a Substitute Appeal Brief.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

Sumner C. Rosenberg
Registration No. 28,753

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APPEAL BRIEF

Mail Stop Appeal Brief - Patents
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NEEDLE & ROSENBERG, P.C.
Customer Number 23859

April 28, 2008

Sir:

The Appellant submits this brief in connection with the above-identified patent application and in response to Notification of Non-Compliant Appeal Brief mailed April 9, 2008. This is an appeal from the rejection of claims 1-13 and 15 in the Final Office Action mailed July 19, 2007. In view of this brief, the Appellant respectfully requests reversal of the rejections and allowance of the pending claims.

(1) REAL PARTY IN INTEREST

The real party in interest of this application is Grammer AG, a German corporation.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to Appellant or the undersigned.

(3) STATUS OF CLAIMS ON APPEAL

Claims 1-13 and 15 finally stand rejected by the Examiner in the final Office Action mailed July 19, 2007 and are now under appeal. Claim 14 was previously cancelled and is no longer under consideration.

The text of each claim on appeal, as pending, is set forth in the Claims Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Amendments after final rejection were filed on September 19, 2007 and December 13, 2007. In the Advisory Actions mailed October 19, 2007 and January 7, 2008, the Examiner indicated that the amendments would be entered.

(5) SUMMARY OF THE INVENTION

Independent claim 1 recites a spring device [page 3, lines 5-19; Fig.4, element 24] for use with a vehicle seat [Fig.4, element 20] having a seat part [Fig.4, element 20] and a lower part [Fig.4, element 22], comprising at least one air spring arranged for the height adjustment of the seat part and a control device for controlling the supply of at least one additional air volume to or from the air spring. The vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel. Additional air volume is supplied to the air spring when the vehicle

seat is in the comfort range of travel, and the additional air volume is switched off when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel, under control of the control device [page 5, lines 4-8].

Independent claim 11 recites a method of springing a vehicle seat [Fig.4, element 20] having at least one air spring [page 3, lines 5-19; Fig.4, element 24] arranged between a seat part [Fig.4, element 20] and a lower part [Fig.4, element 22]. The vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel. The method includes the steps of automatically controlling the supply and discharge of at least one additional air volume to and from the air spring [page 4, line 30 to page 5, line 2], where an additional volume of air is supplied to the air spring when the vehicle seat is in the comfort range of travel and switched of when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel [page 5, lines 4-8].

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether the phrase "the volume in which the air to be compressed is less" in claims 1 and 11 is indefinite.

Whether claims 1-5, 7, 11 and 15 are anticipated by U.S. Patent No. RE 35,572 to Lloyd et al. (hereinafter "Lloyd").

(7) ARGUMENTS

a. Rejection of Claims 1 and 11 under 35 U.S.C. §112

The examiner rejected claims 1 and 11 under 35 U.S.C. 112, second paragraph. The examiner stated that the phrase "the volume in which the air to be compressed is less" is indefinite in claims 1 and 11. The examiner previously found that the phrase "'the volume in

which the air to be compressed is reduced' is indefinite because it is not possible for the compressed air to be reduced if the switched [sic] is off." [Final Office Action, July 19, 2007, page 2.] The examiner said that "[t]here has to be a way for the compressed air to be reduced by leaving the container/tank/reservoir." *Id.* In response the Applicant substituted the word "less" for "reduced". However, the examiner maintained the basis for this rejection in the Advisory Actions. It is important to recognize that it is not indefinite to refer to air volumes that are less than other air volumes. Applicant suggests that the Board consider two containers, each connected to a valve that can be switched to allow air flow access to either both containers or just one container. Each container contains a given volume of air. When the valve is switched from accessing both containers to just one container, it is seen that the volume of air being accessed is "less". Thus, if the goal were to compress the air to which the valve allows access, when the valve is open to both containers, the combined volumes of air are being compressed, but if the valve is switched to allow air flow to just one container then a "lesser" volume of air is being compressed. That is the basis for this phrase in claims 1 and 11, and it is submitted that the claim is not indefinite once it is understood that the control system of the present invention operates by switching in or out such additional volumes of air.

b. Rejection of Claims 1-5, 7, 11 and 15 under 35 U.S.C. §102(b)

The examiner rejected claims 1-5, 7, 11 and 15 under 35 U.S.C. 102(b) as being anticipated by Lloyd. The examiner states that Lloyd teaches a spring device having at least one air spring which includes a control device for supplying air to the spring.

First Office Action Response

The distinction between *Lloyd, et al.* and the present application is that *Lloyd, et al. introduces* air to the air spring when, due to external forces such as vibration or pot holes, the travel of the seat is forced downward and releases air from the air spring when the travel of the seat is forced upward (see col. 5, line 63 to col. 6, line 5 of *Lloyd, et al.*). That is, *Lloyd, et al.* uses a source of compressed air (see col. 5, lines 4-7), and, for example *Lloyd, et al.* explains that if there is a downward directed force, it causes the automatic valve to a position in which more air is introduced (by the source of compressed air) in the spring 48 to lift the seat relative to its base (col. 6, lines 3-6).

Contrary to the device in *Lloyd, et al.*, the present invention does not use compressed air to automatically adjust the air springs during such events of a downward directed force. That is, while in *Lloyd, et al.*, air is introduced, for example, into the defined space of the air spring, which will thereby increase the air pressure in the spring, it is understood that in the present invention a separate defined container of air is connected or disconnected to the air spring. Thus, the present invention thereby reduces the total volume of the defined space containing the air by switching closed the connection between the defined spaces. This is made clear in claims 1 and 11 wherein it states that switching off the additional volume causes the volume in which the air to be compressed to be less in the out-of-comfort range.

Thus, the distinction between the present invention and the *Lloyd, et al.* device is that present invention *alters the volume of the containers of the air* acting as a spring in the out-of-comfort range, while in *Lloyd, et al.* the volume of the container of the air spring remains fixed and the pressure of the air in the container is either added to by use of compressed air or reduced

by release of air from the defined container. While it is true that the specification of the present application does discuss the use of compressed air, this concerns the setting of the center seat height as discussed, for instance, in item 1 on page 7 and item 4 on page 8 of the present specification. The distinguishing feature of switching in or out an additional volume of air to respond to forces is discussed, for example, in items 6 and 7 on page 8 of the specification.

The examiner states that *Lloyd et al.* and the present application teach a "similar concept for providing comfort to a user when seating in [a] vehicle." It is submitted that similarity of concept is not the correct standard for anticipation. The claims of the present patent do not read on the *Lloyd et al.* disclosure. That should be the sole test – not similarity of concept. In fact, *Lloyd et al.* does not involve the switching off of an additional volume of air, and it is simply incorrect to state that a valve (in *Lloyd et al.*) is the same as a switch. The valve in *Lloyd et al.* is part of a control mechanism for introducing air into or out of an air spring. The switching in and out of an additional air volume in the present invention does not involve introducing air into or out of the air spring.

The proof of this distinction is that the air/spring characteristics of the different modes are not the same in *Lloyd et al.* as in the present invention. As applicant points out in the application at page 2, lines 1-12, prior art air springs (such as *Lloyd, et al.*) "are known which have a force-path air spring characteristic that runs linearly, the incline of which can be changed as a function of the design of the air spring and of an applied additional air volume, *but which have the same incline over the entire force-path air spring characteristic.*" *Lloyd, et al.* does not disclose an air spring system wherein there are "inclines in the profile of a force-path air spring characteristic of

the air spring in a first and in at least one further range are different from one another," as claimed in claim 1. Thus, claim 1 is not anticipated by *Lloyd, et al.*, and should be allowed.

Similarly, independent claim 11 should be allowed. The remaining dependent claims 2-10, 12, 13 and 15 should also thus be allowable.

A Credit Card Payment Form PTO-2038 authorizing payment in the amount of $630.00, representing the fee of $120.00 under 37 C.F.R. § 1.17(a)(1), and $510.00 under 37 C.F.R. 41.20(b)(2), large entity, is enclosed. This fee is believed to be correct, however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

The PTO did not receive the following listed Item(s) C.C Form + $630.00

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CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence, including any items indicated as attached or included, is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop APPEAL BRIEF - PATENTS, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Sumner C. Rosenberg — Date: 4/28/08

(8) CLAIMS APPENDIX

1. (Previously Presented) Spring device for use with a vehicle seat having a seat part and a lower part, wherein the vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel, wherein a border is defined at the point of transition between the comfort range and each out of comfort range, where the borders between said comfort range of travel and out-of-comfort ranges each define a run in/run out position, comprising:

at least one air spring arranged for the height adjustment of the seat part and a control device for controlling the supply of at least one additional air volume to or from the air spring,

wherein an additional air volume is supplied to the air spring when the vehicle seat is in the comfort range of travel, and at a selectable run in/run out position of the air spring, the additional air volume is switched off when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel, under control of the control device, such that the volume in which the air to be compressed is less in the out-of-comfort range than in the comfort range of travel and the inclines in the profile of a force-path air spring characteristic of the air spring in a first and in at least one further range are different from one another.

2. (Original) Spring device according to Claim 1,

characterized in that

in the range (3, 4) of the force-path air spring characteristic (1; 1a, 1b, 1c) the vibration-damping additional air volume that can be supplied or discharged is greater or smaller than in the first range (2) or is completely switched off.

3. (Original) Spring device according to Claim 1,

characterized in that

the additional air volume in the further range (3, 4) can be supplied to or discharged from the air spring in each case in a number of stages, preferably in three stages.

4. (Original) Spring device according to Claim 1,

characterized by

at least one pneumatic directional control valve for supplying/discharging the additional air volume(s).

5. (Previously Presented) Spring device according to Claim 1, further comprising the automatic height adjustment of the seat part at the start of a use operation by a user having a predefined weight wherein air is supplied to or discharged from the air spring under control of the control device such that the air spring adjusts to a central position (7) in the first range (2) of the force-path air spring characteristic (1; 1a, 1b, 1c).

6. (Previously Presented) Spring device according to Claim 5, further comprising a regulator switch that is arranged in the region of an armrest of the vehicle seat.

7. (Original) Spring device according to Claim 1,
characterized in that
the first range (2) within the force-path air spring characteristic (1; 1a, 1b, 1c) can be displaced by means of an operating device by the user and by means of the control device such that the seat part is adjusted to the desired height.

8. (Previously Presented) Spring device according to Claim 1, further comprising a recognition device for recognizing a user using the vehicle seat by his weight.

9. (Original) Spring device according to Claim 1,
characterized in that
the additional air volume that can be supplied and discharged is greater than 0.1 l in the first range (2) of the force-path air spring characteristic (1; 1a, 1b, 1c) and is either 0.0 l or greater than 0.0 l in the further range.

10. (Original) Spring device according to Claim 1,

characterized by

recognition and switching devices (8a, 9a) for recognizing the selectable run in and run out positions (8, 9) of the air spring and for switching the spring device to supply and discharge the changeable additional air volume by means of the control device.

11. (Previously Presented) Method of springing a vehicle seat, having at least one air spring arranged between a seat part and a lower part for the height adjustment (5) of the seat part, wherein the vehicle seat may have a desired comfort range of travel and two out-of-comfort ranges of travel, wherein a border is defined at the point of transition between the comfort range and each out of comfort range, where the borders between said comfort range of travel and out-of-comfort ranges each define a run in/run out position,

comprising the steps of automatically controlling the supply and discharge of at least one additional air volume to or from the air spring,

supplying an additional air volume to the air spring when the vehicle seat is in the comfort range of travel, and, at a selectable run in/run out position (8, 9) of the air spring, switching off the additional air volume when the vehicle seat goes from the comfort range of travel to the out-of-comfort range of travel,

such that the volume in which the air to be compressed is less in the out-of-comfort range than in the comfort range of travel and the inclines in the profile of a force-path air spring characteristic of the air spring in a first and in at least one further range are different from one another.

12. (Previously Presented) Method according to Claim 11, further comprising the step of recognizing

the exceeding of the predefined run in and run out position (8, 9) of the air spring.

13. (Previously Presented) Method according to Claim 12, wherein

the changeable additional air volume is supplied to the air spring only when there is vibration, regularly and at a high frequency by the air spring moving in and out.

14. (Cancelled).

15. (Previously Presented) Method according to Claim 11, wherein

in the event of insufficient vibration damping in the end of travel regions of the air spring with respect to a residual travel path, the changeable additional air volume is reduced towards one end of travel until a sufficient damping of the air spring is achieved without touching of the end of travel by an air spring lifting cylinder.

(9) EVIDENCE APPENDIX

None.

(10) RELATED PROCEEDINGS APPENDIX

None.